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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/585,740

07/12/2006

Byeong-Ju Park

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EXAMINER

A, MINH D

ART UNIT

PAPER NUMBER

2821

NOTIFICATION DATE

DELIVERY MODE

03/17/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/585,740	<b>Applicant(s)</b> PARK ET AL.	
	<b>Examiner</b> MINH D. A	<b>Art Unit</b> 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on dated 12/17/09.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 5, 7-9, 11, 13-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 7-9, 11, 13-1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

***DETAILED ACTION***

This Office Action is a response to Applicant's Amendment filed on 12/17/09. By this amendment, claims 2, 4, 6, 10, 12, 20 are cancelled and thus, claims 1, 3, 5, 7-9, 11, 13-19 are currently presented in the instant application.

As to the prior art rejections to the claims, Applicant's arguments with respect to the prior art rejections by the previous office action mailed on 9/17/09 have been fully considered but are not deemed to be persuasive. Therefore, the prior art rejection is maintained as set forth below. Furthermore, Examiner's responses to the arguments for supporting the rejections are addressed in detail below.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

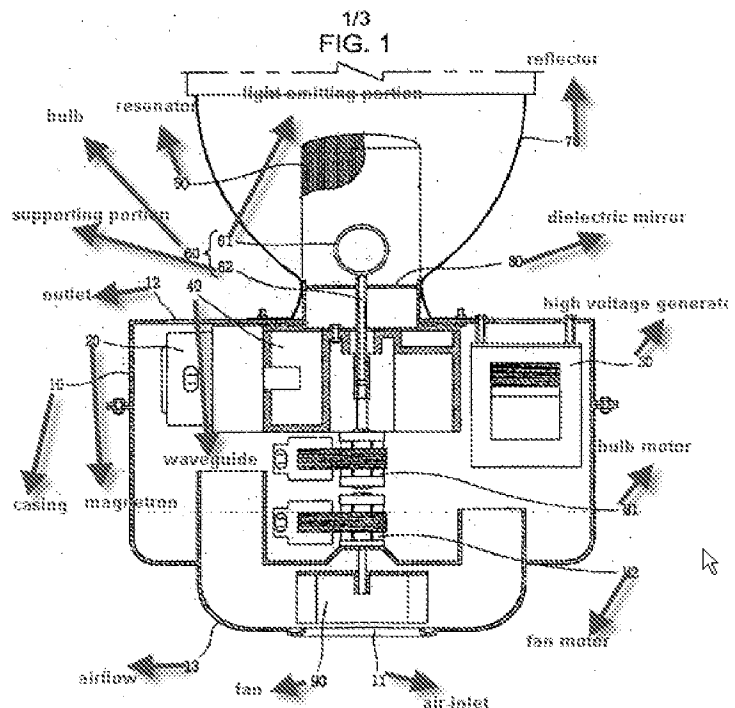
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2821

3. Claims 1, 3, 5, 7-9, 11, 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Applicant Admitted Prior Art (AAPA) discloses in figure 1, in view of Zimmerling et al (Pub. No: U.S 2005/0062567A1).

Regarding claim 1, AAPA discloses in figure 1 that, an apparatus for preventing leakage of a material inside a bulb (60) for a plasma lighting system, comprising: a bulb (60) containing a discharge material therein for emitting light as the discharge material becomes a plasma state by an electric field (emitting portion (61) with electric field and discharge material on the bulb(60); AAPA also discloses that, an external electric field of the bulb at a peripheral portion as shown in figure 1.



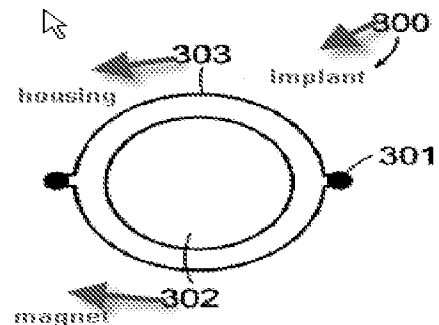
However, AAPA does not disclose that, wherein the magnetic field forming portion forms a magnetic field as a wedge shape so that the electric discharge material

Art Unit: 2821

is positioned at a center of the bulb; wherein the magnetic field forming portion forms a magnetic field as a wedge shape so that the electric discharge material is positioned at a center of the bulb.

Zimmerling et al disclose, in figure 3 that, an implantable magnet (302) for apply magnet field and can be used to prevent leakage of material into the body of the implant (300).

Paragraph [0048], lines 4-11 and selecting or using any shape for magnet as shown in paragraph [0050], lines 1-3.

**FIG. 3**

It would have been obvious to one having ordinary skill in the art to employ the magnet and the difference shape of magnet of Zimmerling et al into the bulb plasma lighting system of AAPA to achieve the claimed invention. As disclosed in Zimmerling et al, the motivation for the combination would be to prevent the leakage of a material inside the bulb for a plasma lighting system.(See the magnet for prevent leakage of material as shown in paragraph[0050], lines 1-3.

Regarding claim 3, combination AAPA and Zimmerling disclose wherein the discharge material comprises (Na) (see page 3, line 14 of AAPA), but AAPA and Zimmerling do not clearly point out that the discharge material is made a sodium (Na).

It would have been obvious to one of ordinary skill in the art to utilize the sodium material into the bulb, since it is known and well suited for the intended use. The

Art Unit: 2821

selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945).

Regarding claim 5, combination AAPA and Zimmerling disclose all limitations as recited in claim 1 and figure 1 above that, an apparatus for preventing leakage of a material inside a bulb for a plasma lighting system, comprising: a resonator (50); a bulb(60) received in the resonator(50) and containing a discharge material therein for emitting light(61) as the discharge material becomes a plasma state by an electric field; and a magnetic field forming portion for preventing the discharge material of a plasma state from being leaked by an external electric field of the bulb by forming a magnetic field at a peripheral portion of the bulb; wherein the magnetic field forming portion forms a magnetic field as a wedge shape so that the electric discharge material is positioned at a center of the bulb.

Regarding claim 6, combination AAPA and Zimmerling disclose all of the claimed subject matter, as expressly recited in claim 1, except for wherein the magnetic field forming portion forms a magnetic field as a wedge shape so that the discharge material be positioned at a center of the bulb.

This difference is not patentable merit since it is directed to select difference shape for discharge material into the bulb which do not differentiate the magnet having a spherical magnet shape (paragraph [0050], lines 1-3 of Zimmerling. A claim containing a recitation with respect to the different shape in which a claimed lighting

Art Unit: 2821

system are intended to be employed do not differentiate the claimed lighting system from a prior art. Therefore, to employ difference shape for the discharge material in the lighting system of prior art, upon a particular application or environment of use, would have been deemed obvious to a person skilled in the art.

*In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Regarding claim 7-8, combination AAPA and Zimmerling disclose wherein the magnetic field forming portion is implemented as an electromagnet or magnet. See figure 3 of Zimmerling.

Regarding claim 9, combination AAPA and Zimmerling wherein the magnetic field forming portion is implemented as a permanent magnet. See figure 3 of Zimmerling.

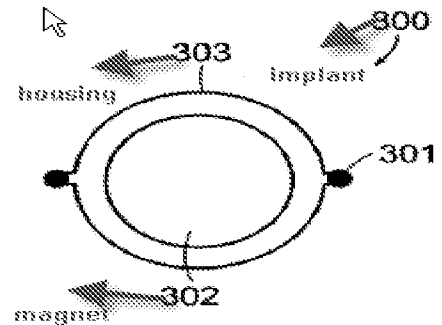
Regarding claim 11, combination AAPA and Zimmerling disclose an apparatus for preventing leakage of a material inside a bulb(6) for a plasma lighting system, comprising: a casing(10); a magnetron(20) mounted in the casing(10); a wave guide (40) connected to the magnetron(20) for guiding electromagnetic wave; a resonator(50) connected to the wave guide(40) for resonating electromagnetic wave; a bulb (60) received in the resonator(50) and containing a discharge material therein for emitting light as the discharge material becomes a plasma state by an electric field.

However, AAPA does not disclose that, a magnetic field forming portion for preventing the discharge material of a plasma state from being leaked by an external electric field of the bulb by forming a magnetic field at a peripheral portion of the bulb;

Art Unit: 2821

wherein the magnetic field forming portion forms a magnetic field as a wedge shape so that the electric discharge material is positioned at a center of the bulb.

Zimmerling et al disclose, in figure 3 that, an implantable magnet (302) for apply magnet field and can be used to prevent leakage of material into the body of the implant (300) and the magnet(302) can be any shape. Paragraph [0047], lines 4-7 and paragraph [0048], lines 4-10 and Paragraph [0050], lines 1-4.

**FIG. 3**

It would have been obvious to one having ordinary skill in the art to employ the magnet of Zimmerling et al into the bulb plasma lighting system of AAPA to achieve the claimed invention. As disclosed in Zimmerling et al, the motivation for the combination would be to prevent the leakage of a material inside the bulb for a plasma lighting system.

Regarding claim 13, combination AAPA and Zimmerling disclose wherein the magnetic field forming portion is implemented as an electromagnet. See figure 3 of Zimmerling.

Regarding claim 14, combination AAPA and Zimmerling disclose wherein a reflector (70) having the resonator (50) therein for forwardly reflecting light generated



Art Unit: 2821

from the bulb (60) is installed at a front side of the casing(10). See figure 1 above of AAPA.

Regarding claim 15, combination AAPA and Zimmerling disclose wherein the magnetic field forming portion is installed accordingly as the electromagnet is mounted in a housing and the housing is positioned at an outer circumferential surface of the reflector (70). See figure 1 of AAPA and figure 3 of Zimmerling above.

Regarding claim 16, combination AAPA and Zimmerling disclose wherein the magnetic field forming portion is installed accordingly as the electromagnet is mounted in a housing and the housing is coupled to the casing. See figure 1 of AAPA and figure 3 of Zimmerling above.

Regarding claim 17, combination AAPA and Zimmerling disclose wherein the magnetic field forming portion is implemented as a permanent magnet.

Regarding claim 18, combination AAPA and Zimmerling disclose wherein the permanent magnet is attached to an outer circumferential surface of the casing.

Regarding claim 19, combination AAPA and Zimmerling disclose wherein a discharge material comprises Na. Page 3, line 14 of AAPA.

***Remarks/conclusion***

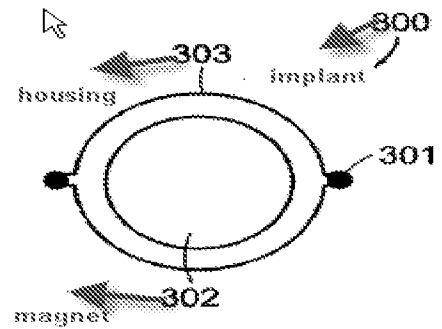
3. Applicant's arguments filed on 12/17/09 have been fully considered but they are not persuasive.

Applicants' argument in each independent claims 1, 5 and 11 that, there is no disclose or made obvious by the prior art of record "wherein the magnetic field forming portion forms a magnetic field as a wedge shape so that the electric discharge material

Art Unit: 2821

is positioned at a center of the bulb" as shown in remark page 6, lines 28 and page 7, lines 1-2 and lines 11-15.

The examiner disagrees, Prior Art (AAPA) and Zimmerling et al (Pub. No: U.S 2005/0062567A1) disclose all of this limitation, specifically, Zimmerling et al disclose in figure 3 above that, an implantable magnet (302) for apply magnet field and can be used to prevent leakage of material into the body of the implant (300) as shown in paragraph [0048], lines 4-11 and selecting or using any shape for magnet as shown in paragraph [0050], lines 1-3.



Therefore, one with ordinary skill in the art would have been motivated at the time the invention was made to have combined the plasma lighting system of AAPA includes the magnet (302) with any shape of Zimmerling et al, since at the time the invention was made there was need to provide the magnet into the plasma lighting system to prevent leakage of material.

In view of the aforementioned, claims 1, 3, 5, 7-9, 11, 13-19 remain rejected as being unpatentable over by Applicant Admitted Prior Art (AAPA) discloses in figure 1, in view of Zimmerling et al (Pub. No: U.S 2005/0062567A1).

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 AM-2: 45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Owens Douglas W can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Art Unit: 2821

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Minh A

Art Unit 2821

Date 3/11/10

/Douglas W Owens/  
Supervisory Patent Examiner, Art Unit 2821  
March 13, 2010